2) What would Scott, in view of Lowder, suggest to one skilled in the art ?

(See Keller, at page 882.)

Asada, in view of Lowder, might suggest that tool life could be extended by substituting diamond attached with a braze having a chemically reactive component for the electroplated diamond of Asada. However, Lowder (1975) was available to Asada (1989) and Asada ignored the possibility of using a reactive braze, or even a braze, and instead teaches the grain should be electroplated to the core of the tool. One skilled in the art may assume Asada rejected Lowder's teachings for some unstated and, therefore, unknown reason.

Scott, in view of Lowder, might suggest that a chemically reactive component be added to the braze used to attach the diamond to the mesh. As Scott fails to teach electroplated monolithic tools, and instead teaches tools comprising an assembly of abrasive-bearing mesh elements, the combination of Scott and Lowder does not suggest the Scott mesh elements will perform in the manner of an electroplated monolithic tool and exhibit improved tool life when a reactive braze is substituted for the bond Scott uses between the mesh and the diamond. Further, as the abrasive-bearing mesh is neither brazed nor electroplated to the body of the Scott saw, but attached by a bonding agent "e.g., an industrial acrylic adhesive or the like...." (see col. 5, lines 8-10, of Scott), the teachings of Lowder do not apply to modify the Scott teachings.

Furthermore, Applicants' invention includes other benefits, such as free cutting operation ("high penetration rate") and steady state cutting operation over much of the tool life. See page 2, last two lines and page 3, first 2 lines, and Figure 2 of Applicants' specification. Neither Asada in view of Lowder, nor Asada in view of Lowder and Scott suggests these benefits. As demonstrated in Applicants' Second Section 1.132

declaration, the electroplated tool of Asada and the Scott-type tool (even if made with a Lowder modification!) require more time to make a single cut than the tool of the invention and, therefore, lack the free cutting character of the tools of the invention. This benefit of the invention was observed irrespective of whether the teeth of the tool of the invention were made with a negative rake angle (claims 3-4, 10, 14-16, 28-29 and 34) or without a negative rake angle (claims 1, 5-9, 11-13, 17-26 and 33).

Neither the combinations of two of the references, nor a combination of all three references would suggest any of the tooth structures of Applicants' tools to one skilled in the art. On the basis of this Keller analysis, Applicants find a case for obviousness lacking.

Applying the standard for obviousness set forth in MPEP 706.02(j), the legal analysis shifts in a direction even more favorable to Applicants' position. The MPEP test appears to closely follow the decision of In re O'Farrell 7 USPQ2d 1673 (CAFC 1988), and it differs significantly from the Keller analysis. The MPEP states there are three elements needed in the prior art to make a *prima facie* obviousness rejection. First, there must be a suggestion or motive in the references or in the general knowledge in the art to modify the references or to combine the references. Second, there must be a reasonable expectation of success in making such a combination or modification. Third, the art must teach or suggest all claim limitations.

Here, the Examiner's rejection lacks portions of the first and second elements, as set forth above in the Keller discussion, and fails to heed that the art does not teach or suggest all claim limitations. The tool structural limitations set forth in the claims are neither taught nor suggested by the references. In particular, the "first uppermost cutting level of grain" on the teeth of a "monolithic" core is completely missing from the references

To some extent, the steady state, freely cutting character of the tool of the invention is due to the presence of "a first uppermost cutting level" of grain. This first layer is forbidden by the Asada patent and criticized as an undesirable aspect of the prior art (see Figures 7-12, and col. 2, lines 10-22, of Asada). This teaching, even combined with Lowder and Scott, cannot suggest to one skilled in the art any reasonable expectation of success with Applicants' claimed tool design.

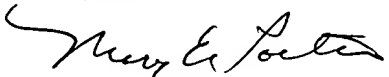
Other structural aspects of the tools of the invention are likewise absent from the combined cited references. The tooth geometry and/or the tool type shown in Applicants' Figures 6-9 and 11-12 are not disclosed or suggested. In particular, the references fail to mention core drills: a tool type likely to benefit from high penetration rate and steady state cutting operations, as well as from enhanced tool life.

For these reasons, Applicants' invention is not obvious over the contents of the cited patents.

CONCLUSION

Applicants respectfully request reconsideration of the final rejection and an allowance of the claims.

Respectfully submitted,



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